THE VETERINARY RECORD

A Weekly Journal for the Profession.

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PROFESSOR JOHN GAMGEE.

The death is announced at Wimbledon, on the 19th inst., of John Gamgee, aged 64. For some years past he has been the subject of bronchial attacks in the winter. In November last he was seized with an attack of more than usual severity when staying at Leeds. He appeared to have quite recovered, and his medical attendant approved his removal to Wimbledon. This was done, but his strength did not return, and cardiac failure was the immediate cause of the fatal termination. On another page will be found some notes on his life and work.

The Council as Disciplinarians.

The Council of the Royal College of Veterinary Surgeons has two essential functions—(*a*) to arrange for the examination and registration of the members of the profession—(*b*) to see that no member disgraces the corporate body by any act likely to lower its dignity or reputation. The fulfilment of this disciplinary duty is quite as much due to the public as to ourselves. The action of every member reflects upon the whole body, and the Council must be jealous to uphold a decent standard of behaviour which will satisfy public requirement. Ways and methods of conducting a profession, which calls itself learned and scientific, cannot be permitted when they are likely to bring contempt upon the whole body. Convictions for felony are dealt with without hesitation, and the perpetrator has his name struck off our Register. The Council has hitherto been very lenient with lesser offences, but repeated convictions for misdemeanour have been dealt with. Disgraceful conduct such as habitual drunkenness and violence has met with punishment.

There are, however, other objectionable practices which the Council have at last determined to check. The Act of 1881 gives power to remove the name of any person from the Register who shall have been guilty "of any conduct disgraceful to him in a professional respect." "Covering" and "advertising" are offences which the Council have determined to try to stop.

Advertising varies indefinitely in kind and in degree. It is impossible to define exactly what advertisements are professionally "disgraceful" and what are not. Each case will be separately considered, and the grosser forms will, if continued, be treated as an offence under the Act.

Quite recently the Registration Committee has investigated two or three charges. In each case the member accused has promised to desist from the practice, and the Committee has accepted the promise. Strange to say the excuse in each case has been, that the action has been "forced upon him by the unscrupulous conduct of an opponent." In this way other offenders are brought to notice and will be attended to. It is evident now that no practitioner need follow a bad lead to protect himself. All he has to do is to report the first offender to the Council and their powers will be brought into action. It cannot be too widely known that a determined stand is being made against damaging and disgraceful forms of advertising. The Act gives powers which have been permitted to lie dormant too long. If practitioners will help by forwarding evidence to the Council these offences will soon become a thing of the past. Ii they are allowed to go on a vested interest will arise which perhaps may not be easily overcome. The Act provides an appeal from the decision of the Council to the Privy Council. Until an appeal has been made we shall not know the extent of our powers. The cost of an appeal is not too expensive to warrant any hesitation on the part of the Council, and members may be well advised not to force the Registration Committee to proceed to extremities.

Let all unprofessional advertising be sent to the Secretary, 10 Red Lion Square, and we shall not have to wait long before our Register is clear of men who lower the dignity of an honourable calling.

Our Monthly Journals.

We learn that both "The Veterinarian" and "Veterinary Journal" have passed into new hands and under new management. Messrs. Ballière are now proprietors of the Journal and Prof. Williams its Editor. "The Veterinarian" is the property of of Professors Aitken, Dewar, and Mettam, of the Dick College, who promise "not only to maintain but to increase its value as an educational instrument." We feel that the new energy put into these two periodicals will certainly make them more dangerous rivals and require greater effort on our part to stand comparison. Thus the change must be beneficial to the profession, whether or not the labours of individuals be increased—but our readers must remember that literary contributions from practitioners are essential to the success of any veterinary periodical.

Royal College of Veterinary Surgeons.

EXAMINATIONS.

The Written Examination in the various Classes was held on December 10th in London at the Examination Hall of the Royal College of Physicians and Surgeons, Victoria Embankment, and the Oral Examination at a Meeting of the Court of Examiners held at 10 Red Lion Square on and between Dec. 11th and 18th, 1894, and the practical portion of the Final Examination at the Royal Veterinary College, Camden Town, on and between December 12 and 14th, 1894.

The following students passed their Final examination:—

Mr. C. Hoole	Mr. S. Pennington
W. J. Foreman	H. Reynolds
A. H. Towne	A. P. Calastremé
H. L. Roberts	B. Franklin
H. Walpole	* G. W. Freer
W. James	T. K. Henton
J. E. Porrett	* T. E. Jones
C A. A. Ewin	E. M. Jarvis
F. F. G. White	H. E. T. Mason
H. Bowker	F. C. Robertson
J. W. Baxter	H. Sturge
A. H. Clapp	F. Thornton
T. J. Frost	W. A. Wood

The following students passed their Second examination:—

* Mr. J. H. Burnett	Mr. R. Gilby
* G. Conder	* T. S. Grove
F. W. Cox	† W. C. Gillam
* A. J. Curtis	* A. H. Grimes
W. Dennington	J. P. Heath
H. B. Eve	† T. B. Hodgkinson
* J. Hughes	S. W. Pratt
R. J. Houston	J. Pugh
W. J. Heley	† B. Sumner
† R. Hudson	* E. Stanley
O. Johnson	* R. D. Thomas
† S. W. Jones	† G. Watkins
W. Mulvey	† C. E. Wells
R. C. Mathews	† J. L. Webbe
J. S. Pike	* H. H. Worrow
† C. Peirce	* W. Wordley
* R. Platt	* H. W. Youngs

The following students passed their First examination:—

Mr. W. H. Anderson	Mr. A. S. Head
R. Brennand	A. T. Hine
* R. W. Carless	A. Hudson
* T. Elliott	G. P. Knott
E. T. Ensor	J. W. Oakley
E. Fenner	* C. M. Park
E. T. Goodall	J. B. Walker
* F. C. Hobbs	* W. M. Williams

Mr. B. Youngs.

Marked thus * passed with Second Class Honours.
" " † " " First " "

ARTHUR W. HILL.
Secretary to the Board of Examiners.

VETERINARY SOCIETIES.

LANCASHIRE VETERINARY MEDICAL ASSOCIATION.

The Quarterly meeting of the Association was held at the Grand Hotel, Manchester, December 6th, 1894. Tea at 5 p.m. Business 6 p.m.

Present:—The president, G. Gartside Mayor, Esq., in the chair. Messrs. W. Hunting, President R.C.V.S., Atkinson, Alex. Lawson, T. Hopkin, W Woods, S. Locke, E. Faulkner, Capt. Appleton, W. Dacre, J. B. Wolstenholme, W. A. Taylor, R. Trigger, R. Hughes, A. W. Mason, J. H. Carter, H. Ferguson, A. Munro, W. Ackroyd, A. Michaelis, Jos. Urnson, Jos. Hall, Jas. Spreull, and H. D. Chorlton, Hon. Secretary.

Letters of apology for non-attendance were received from Professors McCall, McFadyean, and Williams Messrs. Jos. Abson, W. Packman, C. Blackhurst, Jas. Marshall, Henry Thompson.

NOMINATIONS AND ELECTION OF MEMBERS.

Mr. S. Locke nominated Mr. Joseph Hall, M.R.C.V.S. Ashton-under-Lyne.

Mr. H. D. Chorlton nominated Mr. H. B. Allen, M.R.C.V.S., Edgar St., Accrington.

On the proposition of Mr. G. Gartside Mayor, seconded by Mr. J. H. Carter Mr. Arnold Porritt, M.R.C.V.S., Preston, was elected a member of the Association.

Mr. E. Faulkner proposed, Mr. A Lawson seconded, that the minutes of the last meeting be taken as read.

A letter was read from Mr. E. P. Edwards, Mold, resigning his membership, which was accepted with regret.

SPECIMENS.

Mr. W. A. TAYLOR exhibited an intestinal calculus which had been voided by a horse.

Mr. W. ACKROYD remarked on a dense calculus (14 oz.) he had in his possession which contained a loose centre.

Mr. J. B. WOLSTENHOLME exhibited some good sections of well marked cirrhosis of the liver from a horse.

Mr. HUNTING spoke of a case of cirrhosed liver from portal obstruction which had come under his notice recently.

The SECRETARY exhibited the lungs of a filly foal, kindly sent by Mr. E. S. Gubbin of Glossop, and read a short history of the case.

SPRAINS OF TENDONS AND LIGAMENTS.

Mr. HUNTING then, in a very interesting manner opened a discussion on sprains of ligaments and tendons, describing the more or less novel mode of treatment by pressure and motion, as opposed to the more usual, warm water applications and rest, detailing at some length a few cases on which he had tried with good results the application of a good layer of cotton wool and over it a tight bandage, preferably of linen. He was not in the habit of leaving the bandage and wool on all night, except in the case of chronic sprains and thickening of the tendon, when he applied a layer of cotton wool and an adhesive plaster bandage above it, leaving this on for some time.

Mr. W. DACRE spoke of bandaging in sprain of the limb in the human subject and the use of elastic bandages. He had not found these answer so well in the horse, he did not think that sprains received in the hunting field could be cured by pressure. He thought that in sprain of the back tendons bandaging would be likely to increase the pain and lameness, also exercise.

Prof. ATKINSON spoke of his method of treating

sprained joints in the human subject, by warm water applications first and then gradual movement of the affected part.

Mr. WOLSTENHOLME remarked on the unsatisfactory nature of sprains in general, and thought that discrimination was needed to determine whether rest or exercise should be given. He thought that a rest shoe if left on long would be likely to produce a permanent contraction of the tendons.

Mr. T. HOPKIN thought we were not likely to confuse the human and the veterinary treatment of sprains; that this new method was simply an adaptation of the old charges and bandages. He considered that turning to grass under suitable conditions was beneficial in lameness.

Mr. HOPKIN asked if any of the members had any evidence of contracted tendons being hereditary.

Mr. A. LAWSON thanked Mr. Hunting for opening the discussion and was pleased to have heard the remarks of the previous speakers. He mentioned an injury he had himself received which did not improve with rest, but seemed to be benefitted by gentle exercise. He also spoke of the commercial aspect of the treatment.

Mr. W. A. TAYLOR was pleased to welcome Mr. Hunting as the President of the Royal College of Veterinary Surgeons, and thought they were all willing to learn—all students though veterinary surgeons. He thought that gentle movement, not exercise, might increase the absorption of the inflammatory products in the region of a sprained tendon or ligament. He thought the veterinary surgeon was often not called to see a case of sprain until the later stage of thickening and contraction. Generally it was not so difficult to get them to go sound as to keep them so. In shortening and thickening of the flexor tendons the horse going stiffly, the result of long continued stress on slippery pavements, how are we to stretch the tendon?

Mr. HUGHES did not think it hereditary. He had seen cases where stallions had been used suffering from contracted tendons without any bad result to the progeny. He thought contracted state of the tendons might arise from the slippery nature of the pavement in some stables.

Mr. HUNTING then replied to the various questions which had been asked.

THE BRITISH INSTITUTE OF PREVENTIVE MEDICINE.

Mr. HUNTING spoke of the object of the above institute and the good work which it had in view pointing out the desirability of the profession assisting and being closely connected with the Institute.

Mr. LOCKE proposed and Mr. T. Hopkin seconded "That this Society grant to the British Institute of Preventive Medicine through the Royal College of Veterinary Surgeons the sum of £25 and if the Council of the R.C.V.S. grant £500 out of their funds the Lancashire Society will increase their donation to £50.

ELECTION OF OFFICERS.

Mr. S. LOCKE proposed that Mr. Wm. Dacre of Manchester be president for the ensuing year, Mr. T. Hopkin seconded, and this was carried unanimously.

Mr. DACRE thanked the members and said he trusted they would come forward when called upon to bring some interesting practical subjects before the meeting.

It was proposed by Mr. H. D. Chorlton and seconded by Mr. J. B. Wolstenholme that Mr. S. Locke be a Vice-President, this was carried unanimously.

It was proposed by Mr. A. Lawson seconded by Mr. R. Hughes that Mr. H. Ferguson of Warrington, be a Vice-president. This was also carried unanimously.

On the motion of Mr. W. A. Taylor seconded by Mr. S. Locke, Mr. R. Hughes of Oswestry, was again elected Treasurer.

It was proposed by Mr. J. B. Wolstenholme seconded by Mr. A. Lawson that Mr. H. D. Chorlton of Oxford Street, Manchester, be Hon. Secretary.

On the motion of Mr. Locke seconded by Mr. A. Munro, Messrs. John and Alex. Lawson were unanimously elected Auditors for the ensuing year.

Mr. S. LOCKE proposed that the thanks of the Association be given to the retiring officers. This was seconded by Mr. W. Dacre, and carried unanimously.

Mr. W. A. TAYLOR, the senior retiring officer, thanked the meeting on behalf of the President who had been compelled to leave early.

Mr. J. B. WOLSTENHOLME proposed a vote of thanks to Prof. Atkinson for coming among them and explaining his method of treatment. Mr. A. Lawson seconded this proposition.

Prof. ATKINSON briefly thanked the Association for their hospitality and for so kindly listening to his remarks on the subject.

Mr. S. LOCKE said they had been honoured by the presence of the President of the Royal College of Veterinary surgeons and proposed a very hearty vote of thanks to Mr. Hunting for giving us such an interesting address. Mr. A. Lawson seconded this.

Mr. W. DACRE added his support to the proposal and said that the Lancashire Association was always pleased to welcome Mr. Hunting among them. Carried unanimously.

Mr. ALEX. LAWSON proposed a vote of thanks to Mr. W. A. Taylor for occupying the chair the second part of the evening.

Mr. MUNRO seconded this proposition.

This brought a long and pleasant evening to a close.

THE JUBILEE MEMORIAL.

TO THE VETERINARY PROFESSION.

GENTLEMEN,

May I venture to call your attention to the proposed Jubilee Memorial now before you, and ask for your cordial co-operation and support to ensure its success.

The scheme, as submitted to, and adopted by the Council, will be found in the published reports of the last Council meeting. It will, I hope and believe, commend itself to every member of the profession.

"Bis dat qui cito dat"—he gives twice who gives quickly—was never more applicable than to the present Memorial. Prompt action will ensure the foundation of the Scholarship at least a year earlier than if the matter were allowed to drag. Therefore, let our action be sharp, short, and decisive, and let us vie with one another, not as to who shall give most largely, but most promptly; and let our first published list of subscribers be one worthy of the cause.

We do not wish or expect large subscriptions. We appeal to the great body of the profession, and simply remind them that except for the action of the men of 1844, whose good work we propose to recognise by a lasting memorial, we should not have been a profession at all, or had any rights or privileges. If every man will send something, according to his means, success will be assured.

Gentlemen, the Jubilee babe is born, and his name we hope will be Scholarship. He has been most cordially received wherever he has as yet appeared. If every member of the profession will stand "God-

father" and send a small donation to ensure him a vigorous youth, he will then attain a perpetual old age, and long after the present generation has passed away, keep green the names of Turner, Goodwin, Mayer, Dick, Sewell, Spooner, and Simonds, who incorporated our noble profession in 1844.

Donations to Frank W. Wragg, Esq. V.S., Church Lane, Whitechapel, London.

I am, gentleman, your obedient servant,

ROBT. C. TRIGGER,

Chairman of the Jubilee Memorial Committee.

EXTRACTS AND NOTES.

THE SENSES AND INTELLIGENCE OF ANIMALS.

One Saturday evening Sir J. Lubbock, M.P., delivered an address at the Working Men's College on "The Senses and Intelligence of Animal's." The subject, he said, was one on which we knew very little. It was often said, for instance, that the dog was very wise and clever; but there was much doubt as to whether a dog could realize such a simple arithmetical calculation as that two and two make four. The fact that we had hitherto tried to teach animals rather than to learn from them—to convey our ideas to them rather than to devise any language or code of signals by means of which they might communicate theirs to us—was largely responsible for the narrow limitations of our knowledge of animals. It had occurred to him that the method devised by Dr. Howe in teaching Laura Bridgman—who was blind, deaf, and dumb—might be adopted in the case of dogs. He had tried it with a dog, Van, who had been successfully taught to call attention to its common and simple needs by picking out cards bearing certain words, such as "food," "water," "tea," and "door." A three months' experiment in teaching the same dog to pick up and bring the duplicates of cards having distinctive colours or marks proved entirely unsuccesful, however. As to the senses of the lower animals, he had always felt a great longing to know how the world appeared to other beings; and on this question our knowledge was still extremely defective. It was still a doubtful point whether ants could hear. He had tried ants with a great variety of sounds, but they never gave the slightest indication of hearing them; nor did they seem to have the power of communicating with each other by means of sound. Experiments he had conducted showed that bees were not susceptible to ordinary tones of sound; and "tanging," which was popularly supposed to be necessary to the swarming of bees, was, he belived, quite useless. The practice was probably a survival of a simple method of intimating to the neighbours that a swarm "was up." It was possible, however, that the higher over-tones, near and beyond the range of human hearing, were audible to bees and ants. As to the vision of insects, he had demonstrated that bees could readily distinguish colours, blue being their favourite; and that ants were also sensitive to colour, being able to distinguish the ultra-violet rays of the spectrum which were invisible to human beings. It was probable that these ultra-violet rays must make themselves apparent to the ants as a distinct and separate colour, of which human beings could form no idea, and as unlike the rest as red was to yellow. The question also arose whether white-light, to these insects would differ from our white-light in containing this additional colour. These considerations could not but raise the reflection that the world must appear to other animals very different from what it was to human beings. When the vibrations of sound reached 40,000 in the second they ceased to be audible. When 400 millions of millions of vibrations of light struck the retina of the eye in a second they produced red, and, as the number increased, the colour passed into orange, yellow, green, blue, and violet. But between 40,000 vibrations in a second and 400 millions of millions human beings had no organ of sense capable of receiving the impression. Yet between those limits any number of sensations might exist. We had five senses, and sometimes imagined that no others were possible. But it was obvious that we could not measure the infinite by our own narrow limitations. Moreover, in other animals were found complex organs of sense, richly supplied with nerves, but the function of which we were as yet powerless to explain. To place stuffed birds and beasts in glass cases, to arrange insects in cabinets, and dried plants in drawers was merely the drudgery and preliminary of study. To watch their habits, to understand their relations to one another, to study their instincts and intelligence, to ascertain their relations and adaptations to the forces of nature, to realize what the world appeared to them was the true interest of natural history, and might give the clue to senses and perceptions of which at present we had no conception.

THE PRINCIPALSHIP AT DICK'S COLLEGE.

The sad death of Principal Walley on the 10th inst. throws upon the Town Council, as the Patrons and Trustees of the Royal (Dick's) Veterinary College, the duty of appointing a man to the vacant Principalship. It is of the very first importance, not only for the interests of the College, but also for those of the veterinary profession, and of farmers and stockowners as well, that the best man available should be appointed to the Principalship of the institution established by the late Professor Dick, who is justly regarded as the founder of veterinary science in Scotland. In this connection, there is a matter which is well worthy of the most serious consideration of all who are interested in veterinary progress. In the veterinary profession there is a very strong feeling to the effect that it would be greatly to the benefit, not only of the profession, but also of agriculturists, if the two rival veterinary Colleges in Edinburgh were amalgamated, so that there would be but one strong and well-staffed College, instead of two insufficiently supported institutions carrying on a war of competition with each other. The reasonableness of this feeling is at once apparent to any unprejudiced mind, and the present time is particularly favourable for bringing about such "a consummation devoutly to be wished." There would never have been a rival veterinary establishment in Edinburgh in direct competition with the Dick College had it not been for some injudicious interference on the part of one or two members of the Town Council with Professor Williams in the discharge of his duties as Principal of the Dick College. Shortly after the death of Professor Dick the Town Council invited Professor Williams to accept the post of Principal of the Dick College, and the Professor who, up till then, had never dreamt of taking up the teaching profession, accepted the invitation, and gave up a large and lucrative practice in Yorkshire in order that he might become Principal of the College in which he had so conspicuously distinguished himself as a student under "old Dick." During the six years that he acted as Principal, the Dick College flourished greatly, and fully maintained the reputation which Professor Dick had made for it. Unfortunately, however, a few members of the Town Council deemed it

their duty or privilege to interfere in a meddlesome and annoying way with the Principal in the discharge of his duties, whereupon Principal Williams, with that sturdy independence that has always characterised him, shook the dust of Clyde Street from off his feet, and as he had by that time made his mark as a veterinary teacher, he founded the New Veterinary College in Leith Walk. It was no easy matter to found a new College in Edinburgh in competition with an old-established endowed institution associated with the name of Dick, and carried on under the direct patronge of the civic rulers of Edinburgh. But by dint of his commanding abilities and indomitable energy, Principal Williams succeeded in his herculean task, and not only has the College founded by him been a great success, but he has also made for himself a reputation as an author, a teacher, and a veterinary practitioner which is absolutely unique. It has been made abundatly clear, however, that one veterinary College in the Scottish capital is amply sufficient for the wants of the veterinary profession, and it is equally clear, therefore, that it would be much better to have one strong and thoroughly well-equipped College than to have two antagonistic Colleges. It is an open secret that a considerable number of the Town Councillors are in favour of having both these Colleges amalgamated, and there can be no manner of doubt whatever that such a union would be exceedingly popular. — *Edinburgh Evening Dispatch.*

THE CHANNELS OF INFECTION IN TUBERCULOSIS.

By G. Sims Woodhead, M.D., F.R.S.E.,

DIRECTOR OF THE LABORATORIES OF THE ROYAL COLLEGES OF PHYSICIANS OF LONDON AND SURGEONS OF ENGLAND.

Delivered at the Opening Meeting of the North London Medico-Chirurgical Society, Oct. 18th, 1894.

Amongst the channels of invasion of the tissues of the human subject by tuberculous virus may be mentioned those with which we shall not have time to deal in any detail this evening. There are recorded undoubted cases of tuberculosis resulting from direct inoculation into the tissues. Tscherning at the Congres pour l'Etude de la Tuberculose, Paris, 1888, mentioned the case of the servant whose finger was cut with a piece of broken spitton used by her tuberculous master. In this instance there was a rapid spread of the process, but the vigorous measures—amputation of the finger and extirpation of the glands of the neck and of the axilla—resulted in the saving of the life of the patient. For comparison with this case he gives another, in which a young veterinary surgeon tore his finger with a scalpel whilst dissecting a tuberculous cow. In this case the local symptoms were distinct, but the spread of the disease was not so rapid as in the case where human sputum had been the inoculating medium. At the same meeting Dr. V. Torkomain and Professor Verneuil recorded a number of other cases in which accidental pricking with a knife smeared with tuberculous material during the performance of a post-mortem examination gave rise to no lesion or only to the well-known post-mortem warty growths which are now generally recognised to be tuberculous. That these tuberculous warty growths have no great tendency to set up secondary deposits must be acknowledged, as we all have friends or acquaintances suffering from their presence. I know at least half a dozen men who are in the position either of having had these growths for a considerable length of time or who have now succeeded in getting rid of them; and in no case, as far as I know, has any secondary lesion been set up. We must therefore agree with Koch and others that there are many cases in which, although tuberculous virus is introduced into the tissues, especially near a cutaneous surface, it does not—for some as yet unexplained reason—multiply and set up a true infective and invading process. At the same time it cannot be too strongly insisted that under certain conditions inoculation in the skin and subcutaneous tissue may be followed by a spreading, and even generalised infection.

I shall not here speak of heredity, which must, except in so far as the general condition of the tissues is concerned, play an altogether unimportant part in the spread of tuberculosis, and can only be classed, along with insufficient and imperfect food and generally defective hygienic conditions, as a predisposing cause of tuberculosis. We may, then, leave all these points and consider more especially the invasion of the human organisms by tuberculous virus making its way from the alimentary canal.

It has now been very generally accepted that passing to and fro the patches of lymphoid tissue in the walls of the alimentary canal, into and out of the canal itself, are numerous leucocytes, amœboid cells, or lymphoid corpuscles, as they are sometimes called. Further, it has been demonstrated that these small cells have the power of taking up foreign particles and of digesting them, or of so transforming them that unless they consist of particles of pigment they disappear; amongst these foreign bodies may be numbered bacteria of various kinds; so numerous, indeed, are bacteria in this position at certain periods of digestion that by the use of proper staining methods they can be readily demonstrated lying in the bodies of the leucocytes, whilst these small cells, in turn, with their contained micro-organisms may be seen lying embedded in the large epitheloid cells of the lymph tissue. These observations are so readily made out and have been so repeatedly confirmed, and the appearances presented are so very similar to those described by Metchnikoff as occurring in connection with the phagocytosis carried on by the leucocytes of the circulation, that very naturally the two processes have been compared, and a phagocytic function has been assigned to the lymphocytes of the tonsils and to the cells of the adenoid tissue of the lower reaches of the intestinal canal. It might be possible in the case of motile bacteria to assume that in the process of their passage into a leucocyte they play an active part and the leucocyte merely a passive *rôle*, but in the case of the non-motile organisms, of which the tubercle bacillus is only a single example, it is difficult to understand how they can find their way into the leucocytes unless these latter become the active agents in the process. Taking now a localised area of this adenoid tissue with its power of sending out and reabsorbing active leucocytes, let us consider it first from the point of view of its being a factor in protection, and secondly as a source of weakness in the process of infection by external organisms. Nearly all pathologists are agreed, and in this the conclusions of older clinical observers have been fully justified in the light of modern pathology, that infection by a micro-organism can take place only under one of two conditions: (1) the micro-organism must be present in sufficient numbers or accompanied by a sufficient quantity of its poisonous products to enable it to take a firm hold and to overcome at least a local resistance of healthy tissues; or (2) the tissues must be so weakened that their resisting power is readily overcome by a few or by comparatively weak micro-organisms. The mass of adenoid tissue, whatever its situation, if the cells are active, is a means of protection in so far as its consists of an enormous number of active cells which are capable of taking up large numbers of micro-organisms, the cells often wandering out from the network of the lymphoid tissue in order to come within "striking distance" of bacteria and other

foreign particles. As is now well known, the bacterial forms found in the mouth are exceedingly numerous; almost as many organisms have been described in that position as have been found on the skin. It is evident, of course, that these organisms have made their way from the atmosphere, from food, or from dust to the buccal and nasal cavities, where under certain conditions they breed in enormous numbers. It has been pointed out, however, that the number of organisms found in the mouth of a *healthy* individual who is supplied with saliva in sufficient quantities is not excessive, and it has been suggested and in part proved that healthy saliva has a definite bactericidal power. It has been suggested that these micro-organisms must necessarily, if they are not killed off by the saliva or some other agent, make their way into the stomach, and, when the stomach is not active, as during the process of digestion, pass though the alimentary canal in such enormous numbers that they may be a source of danger, either through the fermentations they set up or through their action directly on the tissues. Very similarly the invasion of the lungs by micro-organisms appears at first sight to be a comparatively simple matter, and one is sometimes struck by the fact that, although the organisms of septic and other forms of pneumonia appear to be present in the mouth comparatively frequently, pneumonic processes are so rarely set up in the lung. Now, how is it that these organisms are so limited in their sphere of action? It has been found that in certain animals and in man (dirty or mixed feeders) there is a ring of lymphoid tissue surrounding the entrance to the larynx, and a similar ring surrounding the entrance to the œsophagus. In the pharyngeal tonsil we have simply an enormous local development at the two poles of the latter ring. So long as these tonsils, with their accessory lymphoid tissue forming this protecting ring for the pharynx, remain healthy, or so long as they are attacked by no extraordinary number of pathogenic micro-organisms, they are capable of resisting attack and of dealing with micro-organisms, even of what would be called a most virulent type. In this, of course, they are helped by the epithelium with which the lymphoid structure is invested, but some at any rate of the work appears to be performed by the wandering lymphoid cells of which I have spoken.

What part does this pharyngeal ring play in determining infection in cases of tuberculosis? It is found when pigs are fed on tuberculous material held in solution, especially if the solution contains fatty or viscid material that in a very large proportion of cases these animals become affected with tuberculosis of the glands associated with the tonsils. It has long been a well-known fact among veterinary surgeons that swellings at the angle of the jaw, often leading to abscess, were not uncommon in the pig, but it is only comparatively recently, especially in this country, that the tuberculous nature of this abscess and the relation of these swollen glands to a tuberculous process have been fully recognised. Abroad, in France, Denmark, Germany, and Holland, this is now so far accepted that every animal inspected is examined for enlarged glands or for any indication of a tuberculous lesion in the region of the tonsil, and especially near the cervical vetebræ where the glands around the pharynx come in contact with the bony structures. As a result of such examination it has been found that tuberculosis in pigs is a much commoner disease than was at one time imagined. In many cases the tonsil itself bears evidence of its being affected by tuberculous disease; it may be enlarged, it may be ulcerated, or there may be caseous points in its substance. It is evident, therefore, that, under certain conditions, the very structures which ordinarily offer resistance to the general invasion of the bacillus may be so disorganised that they are no longer capable of dealing effectively with the organisms by which they are attacked. In other cases, however, the tonsils themselves are little, if at all, affected—*i.e.*, there are no naked-eye or microscopic lesions which would enable one to say that these organs are tuberculous; but the glands surrounding them and immediately in connection with them contain distinct foci of tubercle in various stages of growth and degeneration, and these lesions are so definitely localised that it is evident that the infective agent, if introduced from without, must have gone through the tonsils, which in these cases had been unable to deal in the usual manner which the tubercle bacilli that were contained in the material upon which the animals had been fed. So far as can be made out from a careful consideration of the results reported by observers who have collected statistics and have performed feeding experiments, and from my own observations of a number of similar experiments, I am driven to the conclusion that this method of infection of the glands of the neck through the tonsils must be of comparatively frequent occurrence, especially in children living under insanitary conditions and subjected to various devitalising influences. It must be remembered, however, that in the case of the pig, although the tonsils are specially large and active, the chance of injury to these structures is great, and, even though the wandering cells are left out of account, injuries and abrasions of the mucous membrane must necessarily leave these structures less resistant than under ordinary conditions. It has, indeed, been pointed out in connection with pharyngeal infection in cases of actinomycosis that in the pig, and even in the human subject, the epithelium of the tonsil is very frequently removed, and that this organ is then much more susceptible to invasion of pathogenic micro organisms from without. The quantity of infective material—*i.e.*, the number of bacilli—in cases where the tuberculosis is produced experimentally is, of course, often very considerable, and the bacilli massed together in large numbers are able to attack at once, and to set up these local lesions in the tonsils of which mention has already been made. In these cases, in which there is no distinct lesion in the tonsil itself, it must be held that the leucocytes, although able to take the bacilli into their substance, have not been able to kill them, that they have not been able to carry on the struggle beyond the first gland—*i.e.*, the leucocytes have been able to carry the bacilli from the tonsils to the gland in its immediate neighbourhood, but at this point have succumbed, and their protoplasm has served as a nutrient medium for the bacilli which, multiplying and being reinforced by their progeny, have continued the invasion still further, with the result that a chain of lymphatics and lymph glands has ultimately become infected. In many of these cases the process can be traced from the glands in the tonsil down into the neck, and so on to the thorax, by the mediastinal and post-sternal glands, and by the intercostal lymphatics and glands, and it is interesting in such cases to note how the lungs may be perfectly healthy, until the glands at their root or in the pleura have become distinctly affected.

In the guinea pig, an animal in which the lymphoid tissue is scanty in amount, and in which we have no definite tonsillar structure in the pharynx, early tuberculous affection of the neck is seldom met with, whilst affection of the mesenteric glands, with or without a primary lesion in the adenoid tissue of the lower part of the ileum or the cæcum, is of comparatively common occurrence, and this when the animals are fed with tuberculous material conveyed in a viscid or fatty vehicle, just as in the experiments on pigs. In the human subject, where both sets of glandulous tissue are so distinctly marked, we find, as we should expect, tuberculous lesions corresponding very closely to those

met with in the pigs, on the one hand, and in the guinea pig, on the other; so that tubercle of the mesenteric glands, with or without an evident tuberculous lesion of the intestine, is often met with. These invasions are prevented or accelerated by the action of the wandering cells, according as these cells are endowed with a low or with a high share of vitality at the time of the introduction of the tubercle bacillus. Before leaving this subject I should like to point to what I believe to be a most important point in connection with the spread of tuberculosis in susceptible and in comparatively insusceptible animals—a matter that may be useful both in diagnosis and in prognosis. Anyone who has traced the course of invasion and spread of the tuberculous process in a susceptible animal will have noticed that before, and sometimes in connection with, the general outbreak of tuberculosis, which is spoken of as "generalisation" of the process, there usually occurs a continuous spreading from point to point of the tuberculous lesions. It appears to be a process of what is called direct extension, although it may be that now and again we have a short lymph channel apparently unaffected. A lymphatic gland is never "jumped," whilst in most cases even the lymphatic channels between the two glands are more or less affected. In more resistant animals, however—and amongst these must be classed the human subject—it is sometimes noticed that this process of extension is rather what is called metastatic than direct—*i.e.*, it appears as though several glands, or even a whole chain, were skipped over, the tuberculous process appearing to elect as its seat of further operations a gland or tissue some distance from the primary lesion. As this secondary growth if often perfectly isolated it cannot be accounted for on the theory that it is part of the process of generalisation. This metastatic invasion, just like a local manifestation of the presence of anthrax at the seat of inoculation, must be looked upon as a sign that the tissues as a whole are engaged in carrying on a vigorous resistance against the invasion of tubercle bacilli, and the wandering cells are, on their part, doing their utmost to destroy the bacilli, and it is only when their efforts are weakened, or when they are imperfectly assisted by tissues of lower vitality, that the tubercle bacilli have a chance of resisting their attacks. I have observed this so frequently, and was at first greatly puzzled by this difference in mode of extension but I had come to a somewhat similar conclusion as Professor Delépine arrived at—viz., that in certain animals, at any rate, the lacunar system of lymphatics must offer channels by which bacilli could be carried from point to point quite apart from the lymphatic glands.

Tuberculosis is a disease not confined, under present conditions, to the human subject. It is, indeed, much more frequently met with than was at one time supposed; and the French Committee of the Congress on Tuberculosis, already referred to, has collected statistics whereby it is shown that not only are cattle affected by this disease, especially in connection with the serous membranes, the lungs, and, most important from our point of view, the udder and its lymphatic glands; but the pig, in which the glands of the neck and the spleen are specially affected; birds, in which the first parts of the respiratory and alimentary tracts and the spleen are the seats of the disease; rodents, horses, goats, and, comparatively rarely, carnivora and sheep. It should be pointed out, however, that in this country sheep are seldom affected, but that in the case of the horse the so-called lymphadenomatous glands have now, through the work of Professor MacFadyean, been placed in their proper position as the result of a truly tuberculous process, whilst I am convinced, from the number of tuberculous cats I have seen, that this disease is much more common amongst carnivorous animals than is usually supposed. If thus we have all these animals affected, it must be evident that the sources and centres of infection must be much more numerous than has hitherto been recognised, and the facilities for infection far greater than the most pessimistic of us could have believed. It is evident, moreover, that these facilities are greatest in the direction of infection by ingestion of tuberculous materials—if inhalation, for the present, be left out of account.

So far we have considered only what by many is looked upon as a minor factor in the propagation of tuberculosis, and observers both old and recent have always maintained that pulmonary tuberculosis accounts for a very large proportion of the cases of this disease, and certainly it would appear at first sight that this is the most common form, especially as met with in patients of advancing years. There can be no doubt that a large proportion of the fatal cases of tuberculosis—14 per cent. of the whole of the deaths recorded from all sources of disease—exhibit their primary or secondary tuberculous manifestations in the lung, although amongst those cases a large proportion of the deaths are amongst children during early life, in whom evidence goes to show that the primary seat of infection is very frequently in the alimentary tract. In consequence many, especially non-medical people, associate tuberculosis almost exclusively with its pulmonary manifestation, and even medical observers do not all fully appreciate the fact that so many cases of tuberculosis do not commence primarily in the lungs. There can be no doubt that infection of the lungs through the inhalation of tuberculous material in the manner described by Cornet, and now generally recognised, accounts for a large number of cases of phthisis, but we are certainly not justified in assuming that all cases of pulmonary tuberculosis are due to inhalation of dried sputa or of particles of dust to which tubercle bacilli are attached, although these must undoubtedly be fruitful sources of tuberculosis; but it cannot be too strongly insisted upon—and I am sure that those of you who have made any considerable number of post-mortem examinations of the bodies of tuberculous patients who have succumbed at various periods of life will agree with me in this—that the affection of the lung often appears to be (although the ultimate cause of death) merely a secondary affection. I have seen in case after case in children and in animals fed on tuberculous material the lungs markedly affected, but in a large proportion of these cases it has been possible to trace the course of invasion back from a caseous or old calcareous mesenteric gland through the chain of retro peritoneal glands up through the diaphragm to the posterior mediastinal and bronchial glands, and so on to the lung. I have not seen this in a few cases only, but in dozens of children, in a few adults, and in many animals. We have also an example of secondary affection of the lungs following tubercle of the pharyngeal tonsillor structures, through the glands in the neck, then those in the thorax, and finally to the lung itself in the examples that have already been given of infection of the pig by tuberculous milk etc. Moreover, I have seen a similar line of invasion in children, sometimes alone, but usually associated with tubercle extending from the mesenteric glands in the direction already indicated. In all these cases it would appear that the glands at the root of the lung become tuberculous and caseous before the pulmonary tissue itself shows any evidence of disease. This is the form which is much more readily produced experimentally than any other, the glands at the root of the lung being distinctly caseous with the tuberculous nodules in the lung itself are still quite pearly in appearance externally and have merely a slight caseating point in the centre. The importance of the bearing of these facts is evident when it is considered that in all probability tuberculosis of the

alimentary tract and of the mesenteric glands can be brought about only by the introduction of tuberculous material, usually milk in the case of children, though it is quite conceivable that raw and undercooked meat may, even in the case of children, be accountable for a small proportion of the cases with which we meet. It is probable, therefore, that we must relegate a certain proportion of cases of lung tuberculosis to the class of cases arising from secondary infection and following upon abdominal tuberculosis. Not only are there these cases arising from old calcareous mesenteric glands and from what may be called recent intestinal and mesenteric tubercle, but, as the result of observations on a number of young animals fed with milk containing tuberculous material, I am inclined to believe that in some cases even when there are distinct primary tuberculous lesions in the lung, especially where these are extensively distributed although of recent origin, the infective feeding material has made its way—in small quantities of course, but still sufficiently large to set up the tuberculous process—almost directly to the lungs, and I cannot help thinking that some of those cases in which extensive tuberculosis had been found in the lungs of children who have died within a few months after birth, have been infected in this fashion. Although it is extremely difficult to get positive evidence on this point it may happen to some of you to have such cases under observation. There are undoubtedly a few cases on record in which tubercle has been present in the lungs at birth—i.e., the child has suffered from congenital tuberculosis—but such cases are extremely rare, whilst if the child lives for six weeks after birth and is fed artificially during that time and then succumbs to tuberculosis, even though the lesions are widely distributed in the lungs, and especially if any of the abdominal glands are also affected, I am convinced that the lesions have been set up by tuberculous material taken into the alimentary canal, but at the same time into the respiratory passages.

Gentlemen, you will, I am afraid, be under the impression that I am passing too lightly over infection by inhalation of tuberculous material into the respiratory tracts. In the face of facts and statistics it is impossible to overrate these, but I am leaving this part of the subject to take care of itself, for the reason that in most cases our attention is so forcibly drawn to the subject, and it is dinned into us so continually, that there is little fear that we shall lose sight of or even attach too little value to it; whilst, on the other hand, there appears to be even now too little attention paid to the question of infection commencing in the alimentary tract. We speak glibly of infection by tuberculous meat and milk, we think of a few cases that have come under our observation, in which one or other of these agents (especially milk) was thought to have played a causal *rôle*, but that ingesta of various kinds are daily adding to our numbers of cases of tuberculosis is not yet, I am sure, fully realised in this country. How real the danger appears, however, to those who have been engaged in the careful study of the question of tuberculosis for many years in a country where tuberculosis amongst cattle has come to be an important question not merely with the scientific authorities but with the farmers themselves, may be gathered from the fact that on many farms in Denmark constant fortnightly inspection of cattle is carried on, and from the knowledge gained through this fortnightly inspection it has quite recently been determined by the Danish Government to hand over to their head veterinary adviser, Dr. B. Bang, a considerable sum of money (£3000)—a sum which is to be granted annually for five years—with which it is proposed to carry on a systematic inspection of all cows not previously under observation, to use tuberculin as a diagnostic agent, to kill off the cattle that are undoubtedly affected with tuberculosis, and to keep under observation every animal in which there is any suspicion that the disease exists. It is hoped, in this manner, to stamp out the disease in the present generation, and I am convinced that if this once be thoroughly done, and the inspection be continued, the comparatively trifling amount spent by the Government will prevent a loss to the Danish farmers, and will cause a gain to infant life almost incalculable. One word more and I have done. If Koch's tuberculin had done far more harm than it ever has done, the saving of human life indirectly, through its efficacy as a diagnostic agent, will be so enormous that the account to the credit side of the balance will have to be reckoned not as hundreds to units, but as thousands. I may appear to be speaking extravagantly, but from what I have seen of the effect of milk from tuberculous udders when given raw, even to comparatively insusceptible animals, I feel no qualms of conscience in making even these apparently exaggerated statements.

SUBNORMAL TEMPERATURES OF THE BODY.

Janssen (*Deutsches Archiv fürklin Med.*, Bd. liii) gives a detailed account of the various causes which may produce a subnormal temperature, basing his review on the records of 400 cases at the Kiel Medical Clinic, and on cases reported in medical literature. A very low temperature may occur: (1) After the direct withdrawal of heat from the body, as in cases of exposure, of unconscious or drunken persons in a very cold atmosphere, or after immersion in very cold water. (2.) After the loss of great quantities of fluids from the body, as in severe diarrhœa, enteritis, cholera, or profuse hæmorrhage. (3.) In conditions of cachexia and inanition, such as cancer of various parts of the alimentary canal, severe forms of diabetes, pernicious anæmia; during convalescence from febrile affections, and in many chronic mental diseases. (4) In grave circulatory disturbances, as in cardiac failure. (5.) In various diseases of the central nervous system, in tuberculous meningitis, at the onset of cerebral hæmorrhage and embolism, in some cases of brain tumour, and in general paralysis of the insane. (6) After irritation of sensory nerves, as in intestinal strangulation, in renal and gall stone colic, internal perforations of the intestines, etc., and after surgical operations. (7) In extensive skin affections, such as sclerodermia and extensive burns. (8) After fevers, when the temperature may long remain subnormal: or in the course of certain fevers, as in pyæmia. (9) In cases of poisoning by phosphorus, atropine, morphine, carbolic acid, and in alcoholic intoxication; also in the autointoxication of uræmia, and in diabetic coma. In some healthy persons subnormal temperatures are occasionally observed without any apparent cause.

"Every Man to his Trade."

At a meeting of the Edinburgh University Agricultural Society Mr. Hunter—an examiner of the university—referring to the absurdities which had characterised many agricultural experiments said: "Notwithstanding that it was a question which had entire reference to the growth of plants, and was therefore botanical, they set a chemist to superintend the experiments. Notwithstanding that the question at issue concerned animals alone, and came therefore within the range of veterinary science, it was a chemist who made the investigations. He did not say that there was no need for a chemist, but he did say that botanical problems could not properly be investigated by a chemist, and a veterinary surgeon was surely the man to deal with veterinary questions.

Doctor-Ridden.

History is full of proofs of the degradation of the calibre of nations which become subject to the tyranny of a priesthood. We in this country have a fair experience of the effect of the predominance of lawyers in our Legislature, and in our public affairs generally, though, perhaps, from this calamity we get off with no worse result than a depletion of our purses. We have not yet had the spectacle of a doctor-ridden nation, though we owe no thanks to the doctors themselves for this exemption. They have done their utmost to establish a reign of terror over us, and to dictate laws which, if carried, would place us all in their power, and we are not sure that they are not increasing their influence to an almost dangerous degree, through their Parliamentary committees, associations, and journals. There is, however, we are glad to believe, a healthy prejudice against the assumptions which at present provide an atmosphere of suspicion around their proposals, which will always, we hope, preserve us from absolute submission to their pretensions.—*Chemist and Druggist.*

PROFESSOR JOHN GAMGEE.

Another great veterinarian has passed away. Professor Walley we lost in the very midst of his professional activity. Professor Gamgee relinquished veterinary practice and teaching over a quarter of a century back, and his loss will not now be so acutely felt, but we should indeed be ungrateful were we to fail to note what Gamgee did for veterinary science. With Barlow, he may be said to have initiated the scientific era of veterinary teaching in this country. Before the time of these two, veterinary teaching was not scientific. It made little attempt to teach men to observe exactly and to draw conclusions logically. It taught dogmatically what each man had gathered in his own limited sphere of observation, and endeavoured to explain phenomena by any plausible theory which seemed to fit the circumstances.

The effect of Gamgee's teachings and writings is not easy to estimate, and the short sketch of his life that we are now able to give will do scant justice to his merits. It was necessary to know the man to appreciate his influence; but there are many middle-aged practitioners who will remember the contagiousness of his enthusiasm and the lasting impress he left upon those who were so fortunate as to be his students.

John Gamgee was born in 1830 at Florence where his father, an English Veterinary Surgeon, had been settled for some years. Mr. Joseph Gamgee had a large family and one of his ambitions was to give them an education of the best possible kind. The whole family of boys and girls spoke and wrote Italian, German, French and English. Artistic and classical acquirements also marked every member of the family, whilst the intellectual capacity and power of sustained application which dominated the parents was transmitted to the children. With these natural and acquired advantages John Gamgee entered the Royal Veterinary College, and after the customary period of study obtained his diploma in May 1852. As a student he contributed to the proceedings of the Veterinary Medical Association an essay on The Descriptive Anatomy of the Abdominal Viscera of the Horse which was published in *The Veterinarian* forthwith. This essay indicated at once the advent of a new veterinary writer of the first order, and has not yet been surpassed for lucidity or correctness. In July 1855 the Editors of *The Veterinarian* announced that a monthly abstract from foreign journals would in future be a special feature of the periodical. This was supplied by Mr. John Gamgee under the title of "Contemporary Progress of Veterinary Science and Art"—a monthly series which continued till April 1857.

Between the years 1852 and '55 John Gamgee visited a number of the European Veterinary Schools, staying some time at Alfort and Lyons. At Lyons he acted as assistant to Professor Chauveau, and made many of the dissections and some of the drawings used in the production of that teacher's famous work on Anatomy. Towards the end of 1845 he had established himself in London as ex-mural Veterinary Lecturer, and in December of that year his contributions to *The Veterinarian* were under the title—"Lecturer on Veterinary Medicine and Surgery, London."

On the death of Barlow in 1856 Professor Dick selected Gamgee to fill the chair of Anatomy and Physiology at the Edinburgh Veterinary College. This arrangement only continued for about a year, when John Gamgee retired from Dick's College and set about establishing a school of his own in Edinburgh. Before this was accomplished he had many difficulties to overcome. He met with direct opposition from the Highland and Agricultural Society, and a more covert opposition from the Royal College of Veterinary Surgeons. In May 1858 a Memorial signed by 114 of the leading Agriculturists of Scotland was sent to the Home Secretary, and by him to the Council of the R.C.V.S. The result of a long and animated discussion was the evasive resolution "That the Charter did not confer upon the Council power to interfere with the Schools." It was not till April 1859 that the New Veterinary College, Edinburgh, received the Royal Sign Manual, and became affiliated to the Royal College of Veterinary Surgeons. Slowly this new school progressed and its reputation increased. For the first time in Britain veterinary students had a properly arranged course of study—Anatomy, Physiology, Medicine and Surgery, Materia Medica, and Chemistry, being each taught in separate classes by different lecturers and demonstrators. Another special feature was a course of teaching on the horse's foot and the principles of shoeing, conducted by Mr. Jos. Gamgee, Senr., from which has proceeded almost all the great reform in the practice of shoeing that has obtained during the last twenty years.

Until the opening of the New Veterinary College very few students from Scotland took the diploma of the Royal College of Veterinary Surgeons. Gamgee's students quite forsook the Highland and Agricultural Society and were examined only by the Board appointed by the R.C.V.S. Thus the diploma of the Corporate Body obtained increased prestige in Scotland, and a greater proportion of Dick's students became candidates for the legitimate diploma.

John Gamgee's influence was not limited by his teaching in the College. In 1859 he produced *The*

Edinburgh Veterinary Review, a monthly journal which raised the standard of veterinary periodical literature. In it he advocated reforms in teaching and examining, always insisting upon the necessity for a more thorough curriculum and a better general education. He was quick at detecting merit in a student, and was able in many instances to assist and push forward men who were above the average. From student to teacher he promoted Fordie, Brett, Duguid, and Law, all of whom did good work as lecturers in the College. The two latter are still amongst us and hold responsible positions. Perhaps the greatest work Gamgee ever did was to grasp the principle of contagion as a cause of disease years in advance of others. In 1863 Gamgee amongst veterinarians, and Budd amongst medical men, were alone in recognising that transmissible diseases were due solely to contagion. Before the cattle plague reached us in 1865, Gamgee had for years prophesied that if ever cattle were imported direct from the Baltic ports they would introduce the Rinderpest. Session after session he lectured his students on this disease and indicated the means for its prevention or extermination. But he was before his time, and his warnings were looked upon as idle theories and neglected until too late. His teaching, however, was not altogether lost, as his students left the College with ideas which soon germinated, and which gave them a great advantage over those who had been taught that contagion was more an accident of disease than a cause, and that some mysterious atmospheric influence must be found to account for the origin and spread of epizoötics.

When the cattle plague came and national effort was required to stamp it out, other men were selected as the State advisers, and Gamgee was left with the sole consolation that he alone had suggested the measures which were afterwards forced upon an unwilling nation. Mr. Clare Sewell Read once said in this connection "that Professor Gamgee was a living monument of departmental incapacity and national ingratitude." No truer statement was ever made, for no man ever more thoroughly deserved his country's thanks for work done and advice given. Gamgee spent time and money, which he never recouped, in spreading his views, and like many men before him who were in advance of their age, lived to find himself unappreciated.

In the winter of 1865 the New Veterinary College had attained a firm position in Edinburgh. Unfortunately friends persuaded Gamgee to transfer the College to London. This was done, but the promises of support failed him, and the school in London known as The Albert Veterinary College, never obtained a really sound position. The Professor, always hopeful, always too sanguine, when the original proprietors declined to incur further loss, took upon his own shoulders the financial burden of the concern, but only to find it too great for his strength. The Albert College was closed in 1868 and Gamgee went to the United States. There he was engaged by the Government in a series of veterinary investigations and three reports resulted—on pleuro-pneumonia, on the ill effects of "smutty" corn upon cattle, and on Texan cattle-plague.

After this he forsook veterinary science altogether and devoted himself to engineering and inventions. The last years of his life were devoted to physical research in thermo-dynamics and the condensation of gases. Though carried off before his labours were completed on some new motor powers and novel methods of freezing, it is hoped that his death will not entail a total loss of the work he had in hand.

Of his literary work we have said little. Besides his contributions to journals and periodicals he was the author of a number of books, some of which are still text books. He wrote "Dairy Stock," "A Veterinarian's Vade Mecum," "Our Domestic Animals in Health and Disease." A large book on "The Cattle-Plague," and in conjunction with Professor Jas. Law, two volumes of an "Anatomy of the Domesticated Animals." This work was never finished, but it is not too much to say that as far as it went it has never been equalled.

Gamgee's life did not fulfil its promise. The cause of this is not to be found either in want of application or failure of intellectual force. He tried to grasp too much. He knew his powers and felt that he was able to do great things, but he did not reckon with the material difficulties which must be encountered. His schemes required capital beyond what he possessed, and his whole life was consequently handicapped by struggles to obtain it. He was no theorist, as has often been said. He had as clear and practical a brain as any man, and seldom proposed or started anything which was not afterwards perfected by someone else. He was twenty years in advance of his age, and his schemes and ideas had to be taught to the people. He saw them clearly and fancied others must do so. When he had educated the people they saw and adopted, but meantime he had been forced to relinquish them and pass on to others.

John Gamgee did more than his duty by our profession, he added to veterinary scientific knowledge, he deserved national recognition for his services to the State. His life was fruitful to all—except himself.

CORRESPONDENCE.

ANTHRAX IN CALVES.

SIR,

Under the above heading an article appeared in *The Record* of the 1st., by Mr. J. W. Pritchard, Brighton. Mr. Pritchard says the calves were fed on cotton cake, mangold tops, cabbage, etc., and is surprised at so many deaths. I have been in practice over 35 years and during that time have come across many similar outbreaks, post-mortem examination revealing all the symptoms mentioned by Mr. Pritchard, except anthrax. It is well known to most practitioners that cotton cake is very fatal to young stock; why it is so I cannot say, nevertheless it is a fact; and in my opinion the deaths were due to cotton cake. About three months ago I had two cases; the calves were fed on linseed cake, bran and hay chaff, first two months, and having used up the linseed the stockman was told to give cotton cake, consequently they both died suddenly about three weeks after.

Stevenage, Herts. H. MATTHEWS.

DEAR SIR,

Having read with interest the writings on the above mentioned subject and concluding that there are some misunderstandings between the writers, I think that if the recorder of the cases would kindly answer the following questions it would probably be the means not only of removing those misunderstandings, but also of proving that the lesion now commonly recognised as constant (swelling of the spleen and the diffuse character of its pulp) is not certainly reliable as a post-mortem guide to the diagnosis of anthrax.

1. How long had the animal (the blood from which was examined microscopically) been dead before the carcase was opened?
2. Had the blood examined microscopically been exposed to the air?
3. What was the nature of the sporulation observed?

Thanking that gentleman in anticipation.

I remain, yours etc.,
A. H. CLAPP, M.R.C.V.S.

London, Dec. 27th, 1894.

THE ROYAL AGRICULTURAL SOCIETY'S "WILD STATEMENTS."

SIR,

At a recent meeting of the Council of the R.C.V.S. certain allegations I had made anent the Farriers' Registration Committee were described by a prominent Member of that Committee (who is also President of the Council) as "wild statements." I do not mention the fact to complain but only to point out the strict impartiality of this Presidential rebuke, and to draw attention to the moderation which prompted the President to allude to my utterances as "wild statements," when he might, with so much more satisfacton to himself, have described them as untruths—qualified or otherwise. For that I hope I am becomingly thankful, as also for the kindly admonition that I "should make myself acquainted with the facts before hazarding my statements.' I had thought on that occasion that I had made myself acquainted with them but was evidently in error, and having taken the above advice to heart now lay before you the result of my researches. You may remember that I unhappily suggested some disagreement between the Farriers' Company and the Royal Agricultural Society—this was the "wild statement" (for which I wish to humbly apologise) but the President assured the Council that the Royal Agricultural Society in every way "approved of the work done by the Farriers' Company."

Judge then my surprise when I noted in *The Standard* the following: At the half yearly meeting of the Royal Agricultural Society held on Dec. 13th, 1894, Sir Hy. Thompson said "He hoped the Council would only consent to thoroughly competent shoeing smiths, who, in addition to being able to shoe a horse, knew something of the anatomy of the horse's foot, being registered, and not adopt the proposition of the Farriers' Company that an inferior degree should be given to a blacksmith who could only remove and affix a shoe." (Hear, hear.) "Hunting men, masters of hounds and others would certainly think the Society were wrong if they did not withhold their assent to the proposed alteration." (Hear, hear.)

The President R.A.S. in reply said "Certificates would only be given to competent men and unless they could thoroughly agree with the Farriers' Company on the system to be adopted the assent of the Society to the scheme would certainly be withheld."

I am sure, sir, I shall have your sympathy when I say I am unable to understand this. After the President's assurance that the Royal Agriculture Society had quite "approved the Farrier's work" it comes somewhat as a shock to learn that Sir Hy. Thompson considered "the Society were wrong if they did not withhold their assent to the proposed alteration" and that his views were so generally held that his speech was continually saluted with cries of "hear, hear." After this interpellation (which should have been suppressed, and certainly would have been under the more excellent management at 10 Red Lion Square) it is astounding, nay, incredible to learn from the President of the Society that it was quite possible that "the assent of the Society would be withheld." Pray, Mr. Editor, endeavour to throw some light on this most difficult problem. Without doubt all these stupid Society people are entirely wrong, and a word from you will set matters right again, but I think the occasion should not be let pass without advising the Society, in the words of our President "to make itself acquainted with the facts before hazarding its statements."

December 17th. JNO. A. W. DOLLAR.

A REPLY TO MR. DOLLAR.

Mr. Dollar is apparently aggrieved by some comments of mine made at last meeting of the Council of the Royal College of Veterinary Surgeons. I can assure him they were not intended to be offensive, and if they appeared to him or others unfair I willingly express my sincere regret.

In Mr. Dollar's letter the matter is carried further, and he attempts to show that his statements were correct and my comments incorrect. This is a clear issue, and I accept it. At the Council meeting Mr. Dollar said in reference to the registration of farriers—"there have been very grave signs of the Royal Agricultural Society receding from the scheme." This I characterised as "a wild statement." Later, I informed the Council of a fact that anyone at all acquainted with the work of the Committee should have known—"that 149 smiths had been properly examined this year, of whom 115 passed." On Mr. Dollar expressing doubt, by the query, "been examined by the Company?" I replied—"you should really make yourself acquainted with the facts before hazarding your statements."

Upon this passage I will only remark that when an attack is made on a public body closely associated with our Council, it is most desirable that all charges and statements be as exact as possible, and I think the chairman of a meeting is not exceeding his duty in requiring from members some acquaintance with the facts under consideration.

As to the former passage Mr. Dollar now offers what he supposes is evidence in support of his contention that the Royal Agricultural Society did not approve of the work of the Farriers Company. The facts are—that on June 4th the Registration Committee, after long and repeated discussions, passed the following resolution "That provision be made for registering doormen in a special list as "registered doormen" at a reduced fee." The alteration was submitted to the Royal Agricultural Society and on July 27th their Secretary wrote, "the Council will raise no objection to the resolutions which have been arrived at by the Registration Committee." I may add that the R.A.S. have also, since the alteration, re-elected the members forming their representative quota of the Registration Committee. From this it is quite clear that on November 28th Mr. Dollar was incorrect in saying "there have been very grave signs of the Royal Agricultural Society receding from the scheme."

Mr. Dollar fancies that these facts are upset by a report of the proceedings at a half-yearly meeting of the Royal Agricultural Society held on December 13th. Misled by *The Standard*, he says that Sir Henry Thompson made a speech, with an accompanying approval from the members of "hear, hear," in which he said "the

Society were wrong if they did not withhold their assent to the proposed alteration." Now no one of the name of Thompson spoke at all. Only one speaker referred to the question of horse-shoeing and that was Sir H. Simpson—a veterinary practitioner at Windsor—whose opinion can hardly yet be accepted as "a very grave sign" of the attitude of the Royal Agricultural Society. Mr. Dollar says "it is astounding and incredible" to learn from the President of the Society who referred to Sir H. Simpson's remarks, that it was quite possible that "the assent of the Society would be withheld." I do not think Mr. Dollar would deliberately misquote or misinterpret, and am therefore driven to believe him guilty only of carelessnees and inexactitude. The President said nothing of the sort. What he did say is quoted by Mr. Dollar in the preceding paragraph to that in which he uses the "astounding and incredible" perversion. The President said "unless they could thoroughly agree with the Farriers Company on the system to be adopted, the assent of the Society to the scheme would certainly be withheld." The assent of the R.A.S. had been given months before, and the President's remark was really an acknowledgement of thorough agreement—their assent would certainly have been withheld if they could not thoroughly agree.

Mr. Dollar professes his inability to understand all this. I have offered an explanation, but the only other contribution I can make is—my sincere sympathy for his condition.

WILLIAM HUNTING

COMMUNICATIONS, BOOKS, AND PAPERS RECEIVED:—Messrs. D. Young, B. Ferrie, H. Matthews, E. W. Hoare.
Journal of Com. Med. and Vety. Arch. (Philadelphia) Oct., *The Evening Dispatch* (Edin.) *The Cheshire Evening Echo, The Down Recorder.*

Veterinary Societies—Addresses.

Alterations for this list must be duly notified by the Secretaries.

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